



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,511	12/19/2001	Andrey Zagrebelny	5298-07600 PM01036	6370

35617 7590 12/17/2003

CONLEY ROSE, P.C.
P.O. BOX 684908
AUSTIN, TX 78768

EXAMINER

ROSE, ROBERT A

ART UNIT	PAPER NUMBER
----------	--------------

3723

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/025,511

Applicant(s)
Zagrebelny

Examiner
Robert Rose

Art Unit
3723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 8, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 13-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

Art Unit: 3723

DETAILED ACTION

1. Applicant's election without traverse of Group I(Claims 1-7, and 13-20 drawn to a method of polishing) in Paper No. 4, is acknowledged.
2. Claims 8-12 have been canceled.
3. Claims 1-7, and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1, and 19 applicant recites that no water is deposited on the polishing pad. However, the disclosed slurry solutions themselves contain water, thus this recitation is deemed inaccurate. It is believed that the intention was to recite that no additional water is supplied to the pad other than initially provided in the slurry during polishing.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yi et al.

Note that Yi et al ensure that the pH of the slurry in the holding tank is not altered by any addition of water, by monitoring the pH of the slurry and adjusting the pH of the water if necessary such that it closely matches the slurry pH. This is performed prior to depositing the slurry onto the pad, and avoids the recognized problem of pH shock which is known to lead to agglomeration of the slurry and consequent scratching of the wafer surface during polishing.

Art Unit: 3723

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al in view of Sotozaki et al. Both Yi et al and Sotozaki et al recognize the need to avoid shocking the polishing solution, so that slurry agglomeration can be prevented. Sotozaki et al suggest at column 8, lines 51-67 to supply a small amount of water and gradually increase the amount to avoid pH shock. To deliver water to the slurry in gradual amounts in the method of Yi et al to avoid pH shock would have been obvious in view of Sotozaki et al. The timing and duration of the application of water are considered obvious matters of design choice, as long as the change is sufficiently gradual as to avoid agglomeration due to rapid pH change.

8. Claims 19-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action.

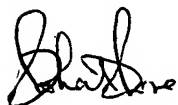
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Roy et al is cited of interest to show another reference which discusses the detrimental results of pH shock in wafer polishing.

Art Unit: 3723

10. Any inquiry concerning this communication should be directed to Robert Rose at telephone number (703) 308-1360.

rr

December 9, 2003.

A handwritten signature in black ink, appearing to read "Robert A. Rose".

ROBERT A. ROSE
PRIMARY EXAMINER
ART UNIT 323